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EXAMINER

GILLESPIE, BENJAMIN

ART UNIT	PAPER NUMBER
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1796

NOTIFICATION DATE	DELIVERY MODE
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10/16/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/582,347	Applicant(s) OGASAWARA, HIDETO	
	Examiner BENJAMIN J. GILLESPIE	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/30/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

Note

1. It is noted that the current rejection contains a new ground of rejection, however, said rejection is necessitated by applicants' amendment filed 6/15/2009. Specifically, claim 2 now requires component (E), a hindered amine, along with component (D), a UV stabilizer, wherein (D) and (E) have a specific heating mass reduction ratio. Thus it is proper to make the instant action FINAL.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Obviousness Rejection I

2. **Claims 2-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Oka et al (2004/0034152) in view of Akatsu et al (U.S. Patent 6,921,580) and Seltzer et al (U.S. Patent 4,876,300).

3. **Regarding claims 2 and 3:** Oka et al teach a composition comprising (A) polyamide resin, (B) glass fibers, (C) white pigment, (D) UV stabilizers and (E) hinder amine (Abstract; paragraphs 26, 33, and 39). For 100 pts of (A), there is between 20 and 50 parts of (B), 5 and 100 parts of (C). Component (A) is the reaction product of terephthalic acid and aliphatic diamine. (Paragraph 12, 30, and 35). Although the light stabilizers comprise (D) and (E) - (D) and (E) based on benzophenone, benzotriazole and hinder amine compounds, there is no explicit teaching that said compounds exhibit the claimed heating mass reduction values.

Art Unit: 1796

4. Therefore, applicants' attention is directed to Akatsu et al which teaches that in addition to benzophenone, triazines such as 2-(4,6-diphenyl-1,3,5-triazine-2-yl)-5-[(hexyl)oxy]-phenol make suitable UV light absorbers. Moreover 2-(4,6-diphenyl-1,3,5-triazine-2-yl)-5-[(hexyl)oxy]-phenol exhibits a heating mass reduction of 20%.

5. What's more, Seltzer et al teach a suitable hindered amines useful as a light stabilizer is N,N',N'',N'''-tetrakis-[(4,6-bis(butyl(2,2,6,6-tetramethyl-piperidin-4-yl)amino)-s-triazine-2-yl)-1,10-diamino-4,7-diazadecane – which has a heating mass reduction of 10% (Claim 19).

6. Therefore, it would have been obvious to utilize the hindered amine of Seltzer et al and the triazine of Akatsu et al since they are both disclosed as suitable species of (D) and (E) and it is *prima facie* case obvious to add a known ingredient for its known function. *In re Linder* 173 USPQ 356; *In re Dial et al* 140 USPQ 244.

7. **Regarding claim 4:** The polyamide has an intrinsic viscosity as low as 0.6 dl/g and a melting point below 350°C (Paragraphs 16, 10, 18, 25, and 45).

8. **Regarding claim 5:** The diamine is comprised of 1,6-hexanediamine, 1,10-decanediamine, 1,11-undecanediamine, and 1,12-dodecanediamine, and the resulting polyamide has an intrinsic viscosity as low as 0.6 dl/g and a melting point below 350°C (Paragraphs 16, 10, 18, 25, and 45).

9. **Regarding claim 6:** The composition comprises glass fibers (Paragraph 33).

10. **Regarding claim 7:** Component (C) is titanium oxide (Paragraph 37).

11. **Regarding claims 8-9:** The composition is useful as a reflector plate in diodes (Paragraph 49).

Art Unit: 1796

12. **Regarding claim 10:** Regarding the claimed optical properties, although not explicitly disclosed by the prior art, one of ordinary skill would reasonably expect the composition rendered obvious by the prior art to exhibit the same properties as claimed since it is based on analogous reactants and fillers in overlapping amounts.

Obviousness Rejection II

13. **Claims 2-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Oka et al (JP 2000-204244) in view of Oka et al (2004/0034152), Akatsu et al (U.S. Patent 6,921,580) and Seltzer et al (U.S. Patent 4,876,300).

14. **Regarding claims 2, 3, 8, and 9:** Oka et al teach a composition useful in the production of reflector plates comprising (A) polyamide resin, (B) glass fibers, (C) titanium oxide, (D) UV stabilizers, and (E) hindered amine (Abstract; paragraphs 20-22). In particular, (A) is the reaction product of terephthalic acid and aliphatic diamine. For 100 pts of (A), there is between 0.1 and 120 parts of (B) + (C). Patentees fail, however, to list specific compounds for (D), as well as diode applications, or teach ranges of (B) and (C) with sufficient specificity to render the corresponding claimed ranges obvious.

15. Oka et al (2004/0034152) also teach reflector plates based on a composition (A) polyamide resin, (B) glass fibers, (C) titanium oxide, (D) UV stabilizers, and (E) hindered amine wherein (A) is the reaction product of terephthalic acid and aliphatic diamine. What's more (B) and (C) are present in amounts relative to 100 parts of (A) by 20-50 pbw and 5 to 100 pbw respectively. (D) is comprised of compounds such as benzophenone and benzotriazole, and the resulting reflector plate is useful in LED technology.

16. Therefore, it would have been obvious to use the reflector plate of Oka et al (JP 2000-204244) in a LED since Oka et al (2004/0034152) teach it is a suitable application for an analogous composition and the prima facie case of obviousness rises from the expectation that compounds similar in structure will have similar properties. *In re Gyruik*, 596 F.2d 1012, 201 USPQ 552 (CCPA 1979).

17. It would have also been obvious to utilize the specific UV stabilizers of Oka et al (2004/0034152) in Oka et al (JP 2000-204,244) since Oka et al (2004/0034152) teach they are useful in an analogous compositions having similar applications and it is prima facie obvious to add a known ingredient for its known function. *In re Linder* 173 USPQ 356; *In re Dial et al* 140 USPQ 244. Finally, it would have been obvious to utilize the amounts of (B) and (C) disclosed by Oka et al (2004/0034152) in Oka et al (JP 2000-204244) since they are particular preferred for reflector plate based polyamides – still the prior art fails to explicitly teach compounds for (D) and (E) that satisfy the claimed “heating mass reduction ratio”.

18. Therefore, applicants’ attention is directed to Akatsu et al which teaches that in addition to benzophenone, triazines such as 2-(4,6-diphenyl-1,3,5-triazine-2-yl)-5-[(hexyl)oxy]-phenol make suitable UV light absorbers. Moreover 2-(4,6-diphenyl-1,3,5-triazine-2-yl)-5-[(hexyl)oxy]-phenol exhibits a heating mass reduction of 20%.

19. What’s more, Seltzer et al teach a suitable hindered amines useful as a light stabilizer is N,N',N'',N'''-tetrakis-[(4,6-bis(butyl(2,2,6,6-tetramethyl-piperidin-4-yl)amino)-s-triazine-2-yl)-1,10-diamino-4,7-diazadecane – which has a heating mass reduction of 10% (Claim 19).

20. Therefore, it would have been obvious to utilize the hindered amine of Seltzer et al and the triazine of Akatsu et al since they are both disclosed as suitable species of (D) and (E) and it

Art Unit: 1796

is prima facie case obvious to add a known ingredient for its known function. *In re Linder* 173 USPQ 356; *In re Dial et al* 140 USPQ 244.

21. **Regarding claim 4:** The polyamide has an intrinsic viscosity as low as 0.6 dl/g and a melting point below 350°C (Paragraphs 18 and 24).
22. **Regarding claim 5:** The diamine is comprised of 1,6-hexanediamine, 1,10-decanediamine, 1,11-undecanediamine, and 1,12-dodecanediamine (Paragraph 10).
23. **Regarding claim 6:** The composition comprises glass fibers (Paragraph 22).
24. **Regarding claim 7:** Component (C) is titanium oxide (Paragraph 20).
25. **Regarding claim 10:** Regarding the claimed optical properties, although not explicitly disclosed by the prior art, one of ordinary skill would reasonably expect the composition rendered obvious by the prior art to exhibit the same properties as claimed since it is based on analogous reactants and fillers in overlapping amounts.

Obviousness Rejection III

26. **Claims 2-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Oka et al (JP 07-228776) in view of Oka et al (2004/0034152), Akatsu et al (U.S. Patent 6,921,580) and Seltzer et al (U.S. Patent 4,876,300).
27. **Regarding claims 2, 3, 8 and 9:** Oka et al teach a composition useful in the production of reflector plates comprising (A) polyamide resin, (B) glass fibers, (C) titanium oxide, (D) UV stabilizers, and (E) hindered amine (Abstract; paragraphs 8 and 23). In particular, (A) is the reaction product of terephthalic acid and aliphatic diamine (Paragraphs 7, 12, 16, and 42).
28. Components (B) and (C) are each present relative to 100 parts by weight of (A) in amounts ranging from 5 to 150 and 0.5 to 50 respectively for (B) and (C) (Paragraphs 19-22).

Art Unit: 1796

However, there is no mention of specific compounds for (D), as well as diode applications, or teach ranges of (B) and (C) with sufficient specificity to render the corresponding claimed ranges obvious.

29. Oka et al (2004/0034152) also teach reflector plates based on a composition (A) polyamide resin, (B) glass fibers, (C) titanium oxide, (D) UV stabilizers, and (E) hindered amine – wherein (A) is the reaction product of terephthalic acid and aliphatic diamine. What's more (B) and (C) are present in amounts relative to 100 parts of (A) by 20-50 pbw and 5 to 100 pbw respectively. What's more, (D) is comprised of compounds such as benzophenone and benzotriazole, and the resulting reflector plate is useful in LED technology.

30. Therefore, it would have been obvious to use the reflector plate of Oka et al (JP 07-228776) in a LED since Oka et al (2004/0034152) teach it is a suitable application for an analogous composition and the prima facie case of obviousness rises from the expectation that compounds similar in structure will have similar properties. *In re Gyruik*, 596 F.2d 1012, 201 USPQ 552 (CCPA 1979).

31. It also would have been obvious to utilize the specific UV stabilizers of Oka et al (2004/0034152) in Oka et al (JP 07-228776) since Oka et al (2004/0034152) teach they are useful in an analogous compositions having similar applications and it is prima facie obvious to add a known ingredient for its known function. *In re Linder* 173 USPQ 356; *In re Dial et al* 140 USPQ 244. Finally, it would have been obvious to utilize the amounts of (B) and (C) disclosed by Oka et al (2004/0034152) in Oka et al (JP 07-228776) since they are particular preferred for reflector plate based polyamides – still the prior art fails to explicitly teach compounds for (D) and (E) that satisfy the claimed “heating mass reduction ratio”.

32. Therefore, applicants' attention is directed to Akatsu et al which teaches that in addition to benzophenone, triazines such as 2-(4,6-diphenyl-1,3,5-triazine-2-yl)-5-[(hexyl)oxy]-phenol make suitable UV light absorbers. Moreover 2-(4,6-diphenyl-1,3,5-triazine-2-yl)-5-[(hexyl)oxy]-phenol exhibits a heating mass reduction of 20%.

33. What's more, Seltzer et al teach a suitable hindered amines useful as a light stabilizer is N,N',N'',N'''-tetrakis-[(4,6-bis(butyl(2,2,6,6-tetramethyl-piperidin-4-yl)amino)-s-triazine-2-yl)-1,10-diamino-4,7-diazadecane – which has a heating mass reduction of 10% (Claim 19).

34. Therefore, it would have been obvious to utilize the hindered amine of Seltzer et al and the triazine of Akatsu et al since they are both disclosed as suitable species of (D) and (E) and it is prima facie case obvious to add a known ingredient for its known function. *In re Linder* 173 USPQ 356; *In re Dial et al* 140 USPQ 244.

35. **Regarding claim 4:** The polyamide has an intrinsic viscosity as low as 0.6 dl/g and a melting point below 350°C (Paragraphs 16 and 42).

36. **Regarding claim 5:** The diamine is comprised of 1,6-hexanediamine, 1,10-decanediamine, 1,11-undecanediamine, and 1,12-dodecanediamine (Paragraph 11).

37. **Regarding claim 6:** The composition comprises glass fibers (Paragraph 8).

38. **Regarding claim 7:** Component (C) is titanium oxide (Paragraph 8).

39. **Regarding claim 10:** Regarding the claimed optical properties, although not explicitly disclosed by the prior art, one of ordinary skill would reasonably expect the composition rendered obvious by the prior art to exhibit the same properties as claimed since it is based on analogous reactants and fillers in overlapping amounts.

Response to Arguments

Art Unit: 1796

40. Applicant's arguments with respect to claims 2-10 have been considered but are moot in view of the new ground(s) of rejection. Specifically, the newly presented rejection addresses the amended claim limitation "heating mass reduction ratio of 50% by mass or less" – see paragraphs 4-6, 18-20, and 32-34 of the instant rejection.

Conclusion

41. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

42. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

43. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BENJAMIN J. GILLESPIE whose telephone number is (571)272-2472. The examiner can normally be reached on 8am-5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1796

44. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Examiner, Art Unit 1796

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